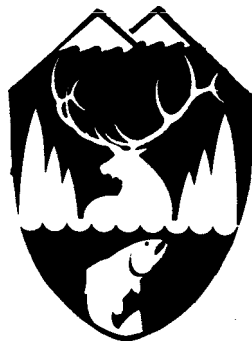


IDAHO DEPARTMENT OF FISH AND GAME

Jerry M. Conley, Director

EAGLE HATCHERY

Annual Report



1 October 1982 - 30 September 1983

by

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Fish Hatchery Superintendent I

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EAGLE HATCHERY

ABSTRACT

This year Eagle Hatchery was scheduled to raise approximately 600,000 kokanee, 150,000 brook trout, 30,000 brown trout and 45,000 rainbow trout. The total weight of all fish produced was 11,269 lbs.

The kokanee egg take this year was in excess of 6.2 million.

Author:

Mel Sadecki
Fish Hatchery Superintendent I

OBJECTIVES

The objectives of Eagle Hatchery are to:

1. Raise to fingerling size approximately 600,000 kokanee (early), 150,000 brook trout, 30,000 brown trout and 45,000 rainbow trout.
2. To stock these fish in lakes, streams and reservoirs throughout the state as needed.
3. To trap and spawn adult kokanee salmon from Anderson Ranch Reservoir.

INTRODUCTION

Located 12 miles west of Boise, Eagle Hatchery receives heavy visitor traffic and is, therefore, a major "contact point" between the public and the Fish and Game Department. Visitor traffic increased considerably this year, with the opening of Eagle Island State Park, which adjoins hatchery property. This has prompted planning to remodel the visitors center here to make better use of the public relations potential.

The hatchery receives its water from seven artesian wells. The wells vary in flow but all contain high amounts of dissolved nitrogen. Pond area is more than adequate with water flow and quality being the major limiting factors to increased production.

FISH PRODUCTION

Kokanee Salmon

Kokanee salmon is the primary species raised at Eagle Hatchery. Production for the year totaled 596,550 fish weighing 3,535 lbs. These fish were stocked into Anderson Ranch Reservoir, Cascade Reservoir and Lucky Peak Reservoir. We began the year with 2,645,914 eggs. 593,920 eggs were shipped out to the State of New Mexico and 11,088 were sent to Grand Coulee's USFWS leaving 2,004,906 on hand. Due to bird losses, disease (primarily bacterial gill) and nitrogen supersaturation, only 29.7% of the fish reached planting size.

Brook Trout

Brook trout were the second most important species reared at Eagle Hatchery during the '82-'83 fish year. We began with 83,892 0"-3" fish and received an additional 504,492 eggs. 152,310 brook trout survived

to planting size of 3"-6" and weighed a total of 6,692 lbs. Survival to planting size in the hatchery was 30.1%. The fish were planted in Regions 1, 2 and 6.

Brown Trout

Brown trout, for stocking in Region 3 waters, were also raised at Eagle Hatchery this year. 51,508 eggs were received from Plymouth Rock Hatchery. Fish planted totaled 27,880 weighing 164 lbs. with survival to planting size of 54.1%, our best results for the year.

Cutthroat Trout

Kings Lake cutthroat trout received from the McCall Hatchery did very poorly at Eagle. Starting with 17,976 0"-3" fish, we stocked a total of only 498 6"+ cutthroat into Fish Lake near McCall.

Rainbow Trout

55,900 Mt. Whitney strain rainbow trout eggs were received during April, 1983. In August approximately 600 of these fish were stocked into Johnson Cabin Lakes 1 and 2. The remaining fish, 44,334, were transferred to Nampa Hatchery during September. Total rainbow production for Eagle Hatchery was 44,934 fish weighing a total of 831 lbs.

FISH HEALTH

Low water flow, low dissolved oxygen and nitrogen supersaturation are the impediments to good fish health at Eagle Hatchery. When these problems are combined with overloading, maintaining fish health is a never-ending battle. Rearing capacity seems to be the most important consideration in maintaining fish health here. Although pond area is more than adequate, not all of the area can be used properly due to the poor water quality, low flows and the fact that a major portion of the pond area has only re-use water available.

Proper pond densities are difficult to maintain at acceptable levels for two reasons: 1) fish in first use water tend to crowd to the downstream end of the ponds to avoid the high nitrogen levels, thus creating artificially high densities as compared to the area available to them; and, 2) the primary species now reared here are all fall and winter spawning varieties (kokanee, brook and browns), thus placing a premium on egg hatching and fry rearing space.

The poor water quality, low flow and overcrowding all contribute to a high incidence of gill disease.

High nitrogen levels in the incoming water contribute poor fry survival resulting primarily in coagulated yolk and gas bubble problems.

A problem not related to fish health, but nonetheless resulting in loss of fish, is bird predation. Covers are in use on the smaller raceways and help to reduce losses. Due to the size and shape of other ponds, covers are not practical. Losses from herons can be quite significant at times.

SPAWNTAKING OPERATIONS

The annual egg-taking operation from Anderson Ranch kokanee was a huge success this year. The run of adults up the South Fork Boise River was the best ever. The adults were larger than last year and produced more and larger eggs. This year's spawners averaged 0.75 to the pound as compared to 1.6 to the pound last year. The females produced an average of 866 eggs each with a size of 238/oz. The total egg take was 6,217,068, exceeding the previous high by almost 4,000,000. 1,379,924 eggs were held here for eye-up with the remainder being shipped "green" to Mackay and Grace hatcheries. The eggs held here showed an eye-up percentage of 91.2%. The State of Nevada received a shipment of 555,016 eyed eggs from this hatchery, leaving us with 824,908 eyed eggs on hand.

FISH FEED UTILIZED

Two types of fish feed were used during the fish year. Oregon Moist feed was used to start both the kokanee and the brown trout. These fish were switched over to dry feed once they began to feed vigorously.

Total poundage of all feed used was 18,700 lbs. to produce 11,269 lbs. of fish for an overall conversion of 1.66 lbs. of feed fed per lb. of fish produced. Feed cost per pound of fish produced was \$0.375.

	<u>Dry Feed</u>	
#2 fry feed	1,750 lbs.	\$ 431.02
#3 fry feed	6,650 lbs.	1,638.33
#4 fry feed	1,550 lbs.	302.20
#5 fine crumbles	1,700 lbs.	327.07
3/32 pellets	<u>5,900 lbs.</u>	<u>1.093.62</u>
Total	17,550 lbs.	\$3,792.24

Moist Feed

Starter	500 lbs.	\$ 188.75
1/32 mesh	<u>650 lbs.</u>	<u>245.38</u>
Total	1,150 lbs.	\$ 434.13

HATCHERY IMPROVEMENTS

The most obvious hatchery improvement for the year was groundskeeping. The appearance of the hatchery grounds is especially important due to the large number of hatchery visitors. This proved to be even more true this year with the opening of Eagle Island State Park. Almost continuous watering and mowing were required to maintain the appearance of a properly kept hatchery. Flower beds were improved with the addition of beam edges and bark chips, therefore, reducing actual groundskeeping time by eliminating weeding and reducing trimming time. Compliments on the improved appearance were not uncommon from frequent visitors.

An attempt last October to increase egg hatching space with the use of barrel incubators proved unsuccessful. The primary problem with the use of barrel incubators at this station is the nitrogen supersaturation of the water. Gas bubbles would form on the substrate in the cans and would either bubble up, forcing unhatched eggs out the top of the can, or the bubble would stay in the substrate, altering water flow and killing eggs.

Some minor repairs were made to the visitors center while planning for its major renovation takes place.

HATCHERY NEEDS

Improvement of water quality is of major importance to the hatchery, and work on the water supply for the hatch house has begun. The goal is to increase the amount of water available and to improve its quality through the use of a pump and a packed-column degasser. This will hopefully allow the use of all the vats in the hatch house (seven vats presently have no water available).

The septic systems here are inadequate, needing frequent cleaning and pumping. These should be replaced or repaired as soon as possible.

The domestic water system also leaves much to be desired due to low flows and pressure.

A garage for the use of the hatchery residents is needed. The building presently used for this purpose is old, relatively small and located away from the residences.